

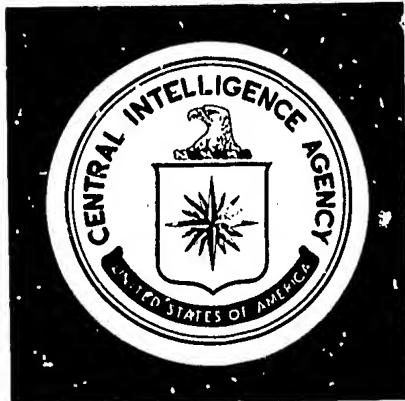
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**DIRECTORATE OF
INTELLIGENCE**

Intelligence Memorandum

Oil in the Egyptian Economy

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ER IM 72-55
April 1972

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
April 1972

INTELLIGENCE MEMORANDUM

OIL IN THE EGYPTIAN ECONOMY

Introduction

1. Egypt has developed a modest but important oil industry that supplies much of the country's needs, permits some exports, and has attracted a substantial inflow of foreign funds. Many predictions have appeared in the press suggesting that Egypt is on the brink of becoming another Libya. Cairo has anticipated that oil will finance much proposed development expenditures. This memorandum describes Egypt's petroleum sector, examines its role in Egypt's balance of payments, and estimates its probable contribution over the next several years.

Discussion

Size and Scope of the Industry

2. Compared with most producers of crude oil in the Near East and North Africa, Egypt has a small oil industry. Its output accounts for less than 1% of world production, and its oilfields constitute a fraction of world petroleum reserves. Nonetheless, crude oil production is sufficient to meet domestic needs, and a relatively large surplus is exported (see Table 1). Crude oil is Egypt's second largest export commodity after cotton and in fiscal year 1971* accounted for 13% of export earnings.

3. Crude oil production began early in this century but had reached only 44,000 barrels per day (bpd) by 1956. The discovery on the Sinai Peninsula of the Bala'im onshore and offshore fields, which began producing

* Fiscal year ending 30 June of the stated year.

Note: This memorandum was prepared by the Office of Economic Research and coordinated within the Directorate of Intelligence.

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Table 1

Supply and Use of Crude Oil and Refined Products a/

	1961	1966	1967	1968	1969	1970	1971 b/	1972 b/	1973 b/
Crude oil supply	116	197	184	172	230	306	347	316	254
Production	67	120	120	134	208	284	317	281	234
Imports	49	77	64	38	22	22	30	35	20
Crude oil use	114	198	198	165	220	294	341	320	271
Exports	25	34	32	46	118	210	247	218	168
Refinery throughput	89	164	164	111	90	76	87	96	97
Fuel oil substitute c/	Negl.	Negl.	2	8	12	8	7	6	6
Stock changes or unspecified use	2	-1	-14	7	10	12	6	-4	-17
Refined products supply	98	158	160	124	118	115	125	132	128
Refinery output	80	154	154	100	83	70	81	90	91
Imports	18	4	6	24	35	45	44	42	37
Refined products use	95	159	156	129	128	119	117	119	122
Domestic consumption	80	106	111	113	118	115	113	114	117
Exports	5	39	35	13	7	2	2	3	3
International bunkers d/	10	14	10	3	3	2	2	2	2
Stock changes or unspecified use	3	-1	4	-5	-10	-4	8	13	6

a. Fiscal year ending 30 June of the stated year.

b. Estimated.

c. Used in thermal powerplants in crude form.

d. Fuels sold to ships and airplanes, domestic and foreign.

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in the fall of 1956 and 1962, respectively, pushed production to more than 80,000 bpd by 1962. From 1963 through 1967, production remained relatively constant at about 100,000 bpd. The Bala'im fields were lost to Israel in June of 1967, but previous crude production levels were quickly regained when the El Morgan field offshore in the Gulf of Suez began producing in April 1968. During 1968-71, output grew rapidly to 317,000 bpd, with all but 52,000 bpd coming from the El Morgan field (see Table 2).

Table 2
Crude Oil Production a/

	Thousand Barrels per Day									
	1961	1966	1967	1968	1969	1970	1971 b/	1972 b/	1973 b/	
Sinai c/	45	93	85	--	--	--	--	--	--	--
West coast of the Gulf of Suez	22	27	24	24	19	21	24	23	22	
El Morgan	N.A.	N.A.	11	110	166	230	265	233	176	
Western Desert	N.A.	N.A.	N.A.	N.A.	23	33	28	25	36	
Al 'Alamayn	--	--	--	--	23	33	28	25	24	
Abu al Gharadiq	--	--	--	--	N.A.	N.A.	N.A.	N.A.	12	
<i>Total</i>	<i>67</i>	<i>120</i>	<i>120</i>	<i>134</i>	<i>208</i>	<i>284</i>	<i>317</i>	<i>281</i>	<i>234</i>	

a. Fiscal year ending 30 June of the stated year.

b. Estimated.

c. The fields have been occupied by Israel since June 1967.

4. Refining capacity nearly tripled between 1956 and early 1967, reaching 164,000 bpd. Most capacity was concentrated at the Al Nasr and Suez refineries located in the town of Suez, with the remainder at a small refinery near Alexandria. By 1965, output of heavier products exceeded domestic demand and permitted a substantial exportable surplus. The output of middle distillate products - kerosene, jet fuel, and distillate fuel oil - was limited by the nature of Egyptian crude, and some imports were required. Even so, in 1966 Egypt had a 49,000-bpd product export surplus (including international bunkers).

5. The Israeli destruction of the two refineries at Suez during the "war of attrition" of 1968 and 1969 destroyed 134,000 bpd of refining capacity. By 1971, Egypt had only offset slightly more than 35% of this loss by raising the capacity of the Alexandria refinery to about 60,000 bpd and by the addition of a 20,000-bpd refinery at Musturud, near Cairo. These increases in refining capacity have been inadequate to meet domestic demand, which has remained relatively stable since 1967, and product imports in 1971 amounted to 4,000 bpd.

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6. The June 1967 war and its aftermath also created distribution problems. Egypt's pipeline transit system does not connect the Gulf of Suez - where the bulk of production is centered - with Alexandria - where the major remaining refinery is located. Thus, with the canal closed, the government has found it more economical to export most of its share of El Morgan production and import the oil needed to supplement Al 'Alamayn production to operate the Alexandria refinery. Of total crude oil exports of 347,000 bpd in 1971, the Egyptian General Petroleum Co. (EGPC) exports about 110,000 bpd - via the Gulf of Suez and the Indian Ocean - and imported 30,000 bpd at Alexandria. The pipelines that do exist are poorly suited to Egypt's current needs. The pipeline that carries domestic and imported products from Alexandria to the interior ends some 50 miles short of Cairo, the major consumption area. The former products line from Suez to Musturud has a capacity of some 40,000 bpd, but the Musturud plant, which it services with crude, can process only about 20,000 bpd at present. The proposed dual 42-inch crude pipeline from the Gulf of Suez to the Mediterranean (SUMED) would expedite using El Morgan oil as feedstock for major refining and petrochemical facilities planned for Alexandria and would increase the return on crude oil exports. After three years of negotiations, however, financial arrangements with West European backers have not yet been ratified.

Government Policy

7. After the July 1952 revolution the new government did not interfere with most petroleum sector activities, even though foreign interests were dominant. However, following British and French intervention on behalf of Israel in the Suez crisis during the summer of 1956, all foreign-held petroleum assets were temporarily sequestered. Subsequently, nearly all the industry was partly or wholly nationalized, and EGPC was set up in 1957 to operate and manage the government's interest. By 1964, Cairo had acquired a majority interest in Egypt's three refineries and ownership or control of all marketing facilities (except bunkering), pipelines, and producing companies.

8. All foreign oil companies operating in Egypt between 1957 and 1964 were affected by nationalization. The five producing fields of the Anglo-Egyptian Oilfields Company (British/Dutch) and the Egyptian Petroleum Company's (French) share of the Alexandria refinery were expropriated outright. Caltex Egypt (US) was eliminated from the domestic marketing scene and forced to sell its interest in the Alexandria refinery to Egypt. Fifty percent of the Sinai producing assets of the Italian Ente Nazionale Idrocarburi (ENI) were nationalized, giving rise to the joint ENI/EGPC company, Compagnie Orientale des Petroles d'Egypt (COPE), which became the forerunner of subsequent joint ventures in Egypt. Mobil

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Oil Egypt (US) retained only a minority interest (15%) in three small Sinai fields but continued bunkering activities, along with Caltex and Esso Standard Eastern.

9. Decades of collaboration primarily with the Anglo-Egyptian Oilfields Co. provided the EGPC with sufficient expertise to operate its acquired properties, but the large foreign exchange outlays required for exploration and development were beyond Egypt's means. Accordingly, while still in the process of nationalizing existing oil companies, Egypt began actively seeking others as partners.

10. Agreements between EGPC and the Amoco UAR Oil Co., the Phillips Petroleum Co. (US), and ENI (Italy), signed in 1964, were revolutionary for their time. In general, they were adaptations of a format that ENI had offered Tunisia and others. They committed the foreign concessionaire to a minimum investment and to assuming all expenses and exploration risks. In the event of an oil discovery, a joint venture was to be formed, with EGPC and the foreign partner sharing output equally. Under these agreements, Egypt was responsible for raising half the capital for the joint company, but thus far the operating foreign firms apparently have financed Egypt's capital contribution, in some cases accepting oil or even local currency in repayment. Profits also are shared equally, but half the foreign companies' share is returned to Egypt as taxes and royalties. During the period of these agreements, therefore, the Egyptian government is assured of a continuing capital inflow and approximately 75% of net earnings, while assuming very little risk.

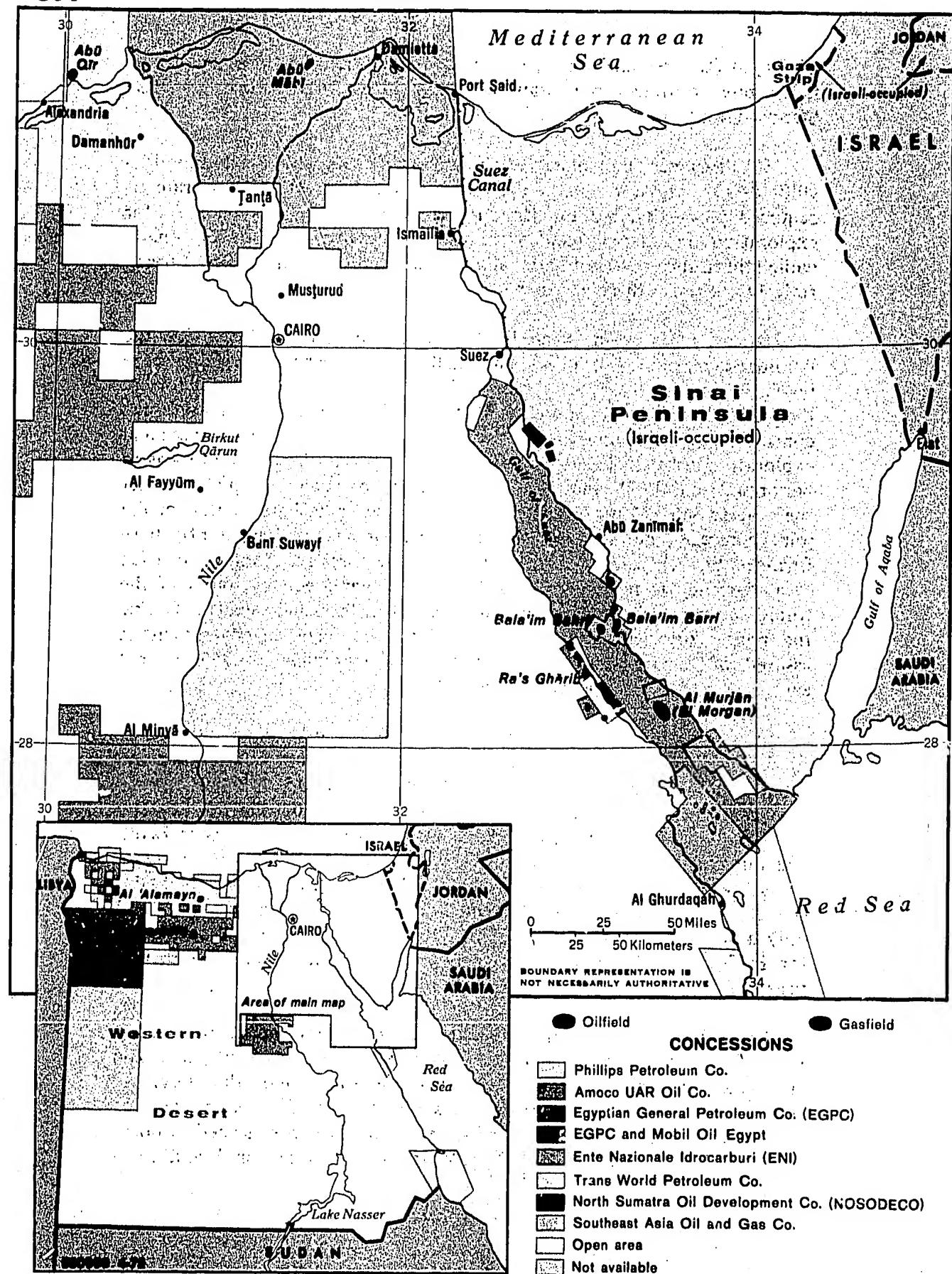
11. Most foreign oil companies in Egypt work under agreements signed in 1964. Amoco's concessions cover most of the Gulf of Suez and a large tract in the Western Desert. With EGPC as a 50-50 partner, Amoco operates the El Morgan field. Amoco discovered Egypt's newest field - Abu al Gharadiq, in the Western Desert - and will exploit it jointly with EGPC beginning about 1973. Phillips also obtained a concession in the Western Desert, where it produces oil in the Al 'Alamayn field jointly with EGPC (see the map). ENI is assigned the Nile Delta area but thus far has discovered only a small natural gas deposit. A region around the Siwa Oasis reserved for EGPC has been explored by a Soviet seismic team for a number of years.

12. Attracting foreign oil investment remains government policy, but terms for new concessions have become more onerous in recent years. The allowable exploration time has been decreased and the Egyptian government's profit share raised. Despite these stiffer terms and the continuing threat of war, several new agreements have been signed. Amoco, along with Southeast Asia Oil and Gas Co., has acquired additional

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Egypt - Petroleum Concessions



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concessions in the Western Desert. Agreements have been concluded with a Japanese firm, North Sumatra Oil Development Co., and with a US independent, Trans World Petroleum Co., for concessions in the Gulf of Suez area. These agreements absorbed most of the unassigned area in the Gulf of Suez. Large tracts, however, remain unassigned in the Western Desert, and other areas will be relinquished during the next several years under the terms of existing concessions agreements. Foreign capital almost certainly will be sought to explore these areas, but international oil companies will not necessarily be approached. Egypt has recently established an International Bank for Trade and Development to seek hard currency deposits from aliens and from Egyptians with businesses abroad. It is possible that some of the financing of future oil exploration will be accomplished through the facilities of this bank.

Balance-of-Payments Trends

13. The Egyptian petroleum sector's balance of payments would almost certainly have been in surplus by 1970 if the June 1967 war had not occurred. Actual net foreign outflows, however, increased from \$36 million in 1966 to \$48 million in 1971 (see Table 3) despite increased crude oil output. Losses resulting from the Israeli conflict are estimated at about \$90 million for 1971 alone, as shown in the accompanying tabulation.

	<u>Million US \$</u>
Losses due to Sinai occupation	35
Export losses of EGPC's share of fields captured by Israel	25
Losses of taxes and royalties of ENI's share of Sinai output	10
Losses due to Suez refineries destruction	20
Additional cost of product imports	20
Losses due to canal closure	35
Increased price of crude products	2
Decreased price of crude exports	33
<i>Total</i>	<i>90</i>

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Table 3
Petroleum Sector: Estimated Balance of Payments a/

	1965	1966	1967	1968	1969	1970	1971 b/	1972 b/	1973 b/	Million US \$
Current account	-91	-98	-113	-125	-141	-117	-109	-117	-121	
Trade (goods and services)	-101	-108	-123	-125	-141	-138	-135	-143	-140	
EGPC exports	16	22	22	9	12	37	49	47	37	
Crude oil Products	Negl. 16	Negl. 22	Negl. 22	Negl. 9	6 6	36 1	48 1	45 2	35 2	
Imports	117	130	145	134	153	175	184	190	177	
Crude oil Products	66 6	58 7	49 9	30 35	18 42	18 47	25 46	29 44	18 39	
Investment goods and services	45	65	87	69	93	110	113	117	120	
Other current (royalties and taxes)	10	10	10	Negl.	Negl.	21	26	26	19	
ENI	10	10	10	--	--	--	--	--	--	
Amoco	--	--	--	--	--	18	24	24	17	
Phillips	--	--	--	--	--	3	2	2	2	
Capital account (foreign oil companies' investment)	42	62	79	63	55	60	61	76	72	
ENI	16	21	36	5	Negl.	Negl.	Negl.	Negl.	Negl.	
Amoco	13	25	23	30	26	30	30	45	40	
Phillips	Negl.	Negl.	1	8	10	8	8	8	8	
Distributors (Mobil, Esso, Caltex)	13	16	19	20	19	22	23	23	24	
Sectorial balance: deficit financed by foreign aid, supplier credits, bank loans, and current earnings from other sectors	49	36	34	62	86	57	48	41	49	

a. Fiscal year ending 30 June of the stated year.

b. Estimated.

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As late as April 1971, war risk insurance on El Morgan crude was running as high as \$0.07 to \$0.10 per barrel. With the canal closed, the travel distance from the Suez ports to European markets, compared with the Persian Gulf, is longer, adding a further competitive disadvantage. These added costs pushed f.o.b. prices down to \$1.00 a barrel in 1970, compared with a realized price of about \$1.30 to \$1.40 per barrel for a similar quality of oil from the Persian Gulf.

14. Hard currency earnings were more drastically curtailed than total earnings by post-war factors. The Egyptians undoubtedly had hoped to sell much of their own crude in hard currency markets. Closure of the canal and Egypt's lack of tankers greatly diminished this option. As a result, at least half of EGPC's share of Gulf of Suez crude has been sold to bilateral trading partners, mainly Communist countries. The proceeds have reduced Egypt's bilateral debt but have not augmented reserves or increased hard currency import capacity. At the same time, hard currency expenditure for crude imports has risen. To maintain capacity output at Alexandria, Egypt has paid hard currency for Libyan crude and for Phillip's share of Al 'Alamayn output. Only for imports from the USSR - recently about one-half of total foreign outlays for crude - has payment been made in goods, including Egyptian crude, or was credit received.

Short-Term Prospects

15. The recent oil boom in Egypt apparently has run its course. By the end of 1971, crude oil output had begun to decline, and in the short term the prospect of reversing the downward trend is poor. The chief factor behind the production downturn is a sharp decline in the productivity of the El Morgan field. Output from the field peaked at 320,000 bpd in August 1970, which was well below the planned peak output of 400,000 bpd. Even this recovery rate, however, appears to have exceeded safe limits. Pressure in the fields has dropped, and output declined to 233,000 bpd by the end of 1971, with a further decline in prospect. Amoco hopes that, through a salt water injection program, output will stabilize at 150,000 bpd by December 1972. This decline alone (from 233,000 bpd) will constitute a 26% drop in total crude oil production. Production in other fields also may decline. Most of the other EGPC fields in the Gulf of Suez area began operating a decade or more ago and are well past their prime. Output at Al 'Alamayn already has dropped to 25,000 bpd, compared with a peak of around 35,000 bpd, and may decline further. Abu al Gharadiq, the one promising new field discovered in recent years, probably will have a production potential of only about 50,000 bpd, an amount too small to offset declining production elsewhere. In any event, Abu al Gharadiq oil will not be produced in commercial quantities for at least another year or two.

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16. Reduced earnings from oil production and exports probably will be at least partly offset by heightened investment activity. Amoco will be spending large sums on secondary recovery techniques at El Morgan and on development of the Abu al Gharadiq field. Phillips will be investing in the vast unexplored tract it holds in the Western Desert, in part to fulfill its investment obligation under its 1964 concession agreement. Development activity has begun recently in the North Sumatra Oil Development Co.'s offshore Suez concession and soon may be started in other new concession areas. Oil product import outlays are expected also to drop somewhat because of some increases in refinery capacity. In all, with oil consumption expected to rise slowly, the petroleum balance-of-payments deficit is likely to remain at between \$40 million and \$50 million in 1972 and 1973.

17. The Egyptian oil sector could achieve a small petroleum balance-of-payments surplus if a settlement were reached with the Israelis, the canal reopened, and the Israeli forces pulled back. The reopening of the canal would give the high-quality El Morgan oil easy access to Mediterranean markets, possibly increasing receipts per barrel by as much as \$0.90. The return of the Sinai would provide the Egyptians with about 100,000-120,000 bpd of additional crude oil output, assuming they were to continue to produce at the level the Israelis attained in 1971 (compared with a pre-war Egyptian production level of about 90,000 bpd).

18. Nevertheless, the present outlook for the petroleum industry is a disappointment to Egyptian planners. As recently as 1969, when the so-called 1970-75 plan was being drafted, oil output was projected at 500,000 bpd by 1972 or 1973. This projected increase was expected to provide much of the foreign exchange required for a moderate increase in economic growth. Instead, Egypt has been forced to rely on Arab aid to cover a current account deficit which, despite slow growth, has ranged between \$250 million and \$400 million during the last several years.

The Longer Run

19. In the longer run, there is always the possibility of new large oil finds. In addition, development of natural gas resources in a few years could result in some improvement in the petroleum balance of payments. Sizable reserves have been located in connection with the search for oil in the Western Desert. The deposits are too small and scattered for economic liquefaction and export, but they are convenient to Egyptian industrial centers. The substitution of gas for fuel oil could release large quantities of domestic crude oil and products for export. If the SUMED pipeline is constructed, earnings of the oil sector eventually will be further augmented. During the three-year construction period, interest payments on foreign loans would constitute a net outflow, and during an eight-year debt repayment period, net earnings of about \$15 million annually would be

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held in escrow. However, availability of the line for shipment of Egyptian crude could, like the canal reopening, add some \$0.90 a barrel to the price of EGPC oil exports from the Gulf of Suez. When all debts are repaid some 1½ years after construction begins, the Egyptians would receive an accumulated escrow account of some \$100 million, and the pipeline reportedly would yield some \$80 million annually in net revenues.

Conclusions

20. Egyptian expectations of a vigorous and growing petroleum sector that would help finance development plans have not been realized. Output of crude oil peaked in 1971 but subsequently has been falling in all producing fields - a trend that will not be offset by new production in the next few years. Although Egypt should be able to maintain self-sufficiency in crude output and continue to supply most of its own product needs, the petroleum sector shows little prospect of being a net contributor of foreign exchange for the next several years and probably will maintain a sectorial balance-of-payments deficit of between \$40 million and \$50 million annually. In the longer run, discovery of new large fields or substitution of gas for oil in domestic consumption could increase the crude and products available for export. Reopening of the Suez Canal and/or constructing the SUMED pipeline could further augment oil sector earnings.

21. Despite a spate of nationalizations in the 1950s, relationships with foreign oil companies now are eminently satisfactory. Many issues, including participation, which still plague producers elsewhere were essentially settled in 1963 in Egypt. The joint-venture type of concession agreements concluded at that time have been financially satisfactory to all concerned, and it remains Egyptian policy to seek foreign partners.

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